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Psychological, Economic, and Structural Barriers to PrEP Uptake Among Female Sex Workers: An Interpretative Phenomenological Analysis in Pangkalpinang, Indonesia

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ABSTRACT

PrEP infrastructure in Pangkalpinang City has been available since March 2024, but uptake among female sex workers (FSW) remains critically low. This study employed Interpretative Phenomenological Analysis (IPA) to examine the lived experiences and systemic barriers affecting implementation. Seventeen participants, consisting of FSW, healthcare workers, and cross-sectoral stakeholders, were involved in individual interviews and focus group discussions. Analysis identified seven key themes: psychological barriers, economic survival tradeoffs, body-based perceptions, structural hurdles, the role of peer educators, provider-patient disparities, and incoherent policies. Despite technical readiness, only one FSW initiated PrEP, reflecting a profound gap between service supply and community demand. Access is hindered by economic vulnerability, anticipated stigma, and policies that prioritize criminalization over health considerations. The study concludes that technical preparedness is inadequate without interventions that target psychological and economic barriers. Success requires peer-delivery strategies and coherent policies that genuinely address the social realities faced by marginalized groups in HIV control programs.

INTRODUCTION

Pre-exposure Prophylaxis (PrEP) represents a paradigm shift in biomedical interventions for HIV prevention, with proven effectiveness exceeding 90 percent under adequate regimen adherence (Makhakhe et al., 2022). Despite global endorsement by the World Health Organization since 2015, low- to middle-income countries continue to face significant challenges in scaling up PrEP among key populations, particularly female sex workers (FSW) (Stoebenau et al., 2024). The persistent implementation gap reflects a complex convergence of individual and systemic factors that often evade purely technological solutions (Moussa et al., 2024). Globally, FSWs remain at high risk, with an HIV acquisition probability estimated to be 13 times higher than that of other females of reproductive age (Harris et al., 2024). These vulnerabilities are

frequently exacerbated by structural elements such as criminalization, gender-based violence, and systemic healthcare discrimination (Mantsios et al., 2022).

Evidence from various regions highlights a recurring disconnect between program availability and actual utilization. In Zimbabwe, only 37 percent of women maintained PrEP adherence beyond three months due to structural barriers and adverse effects (Gombe et al., 2020). Similarly, research in the Democratic Republic of Congo identified economic instability and partner discontent as primary drivers for discontinuation (Zotova et al., 2025). In Morocco, the combination of sex work prohibition and police Gombe threats significantly limited PrEP accessibility (Moussa et al., 2024). Furthermore, studies in South Africa and Zambia suggest that even when accessibility structures are in place, programs often fail to align with the socio-economic realities and specific needs of the community (Makhakhe et al., 2022; Stoebenau et al., 2024).

The situation in Indonesia reflects these global complexities but with sharper local contradictions. While the country has seen a remarkable response to the HIV epidemic, the prevalence among FSWs remains significant at 5.3 percent (Pratiwi et al., 2024). Since PrEP approval in 2021, the Indonesian government has initiated pilot projects in several cities. However, these efforts operate within a contradictory legal framework: the Ministry of Health recommends PrEP for prevention, yet sex work remains prohibited and criminalized under national and local regulations (Pratiwi et al., 2024). This legal ambiguity creates a hostile environment for marginalized groups seeking preventive care.

Pangkalpinang City, the capital of Bangka Belitung Province, presents a unique and critical case for examining this implementation paradox. As a concentrated urban area on a relatively small island, the city was deemed ideal for a coordinated PrEP rollout. By March 2024, the local government had achieved full infrastructure readiness, including drug availability, trained healthcare personnel, and established outreach mechanisms across all Public Health Centers (PHC). Despite this high level of technical preparedness, the actual uptake among FSWs remained critically low. This stark gap between supply-side readiness and demand-side participation suggests that the barriers are not technical, but deeply rooted in the lived experiences of the FSWs and the socio-legal climate of Pangkalpinang.

To investigate this phenomenon, this study utilizes Interpretative Phenomenological Analysis (IPA). This approach is grounded in phenomenological and hermeneutic principles to interpret how individuals make sense of their personal significance and life experiences (Smith, 2009). Unlike descriptive studies that merely catalog obstacles, IPA allows for a deeper exploration of how individuals subjectively interpret and navigate structural limitations within their environment. This methodology is particularly informative for implementation research in marginalized settings because it treats personal experience as a legitimate source of knowledge regarding systemic failures (Moussa et al., 2024).

By exploring the perspectives of FSWs, healthcare practitioners, and stakeholders, this study aims to uncover the multiple interpretations of challenges encountered during the PrEP rollout. The central research question is: Why has PrEP implementation failed to gain traction among female sex workers in Pangkalpinang despite the complete readiness of the healthcare infrastructure? Through the lens of lived experiences, this study seeks to provide analytical findings that can bridge the gap between technical preparedness and meaningful community engagement in Indonesia and similar international contexts.

METHOD

The present study used Interpretative Phenomenological Analysis (IPA), a methodology with phenomenological, hermeneutic, and idiographic emphases (Tindall, 2009). The data collection period was September-October 2024. The data collection was conducted in Pangkalpinang City, Bangka Belitung Province, Republic of Indonesia. The sampling technique used for data collection was purposive sampling. The total number of participants was 17. The total number of participants was 17. They were categorized into three distinct groups: 6 Female Sex Workers (FSW), 5 Healthcare Workers (HCWs), and 6 Cross-Sectoral Stakeholders (CSS). Inclusion criteria for FSW participants included being aged 18 years and over, claiming to be a

sex worker, having experience with sex work in Pangkalpinang City in the past two years, and having prior PrEP awareness. Non-inclusion criteria included participants who were known to be infected with HIV or had a cognitive problem that would not allow for well-thought-out decision-making. Participants in sex work were between 25 and 35 years of age, having sex work experience between 2 and 12 years. Of the selected HCWs, one was an HIV-Virus Program Manager in the Health Office of Pangkalpinang City, another was a PHC staff member at a PHC, a staff doctor, an outreach counselor, and an additional PHC staff member who received training in PrEP Implementation. Members in Cross-Sectoral Stakeholders included two staff members from the Provincial Health Office, two staff members from the District Health Office, a member from a community-based organization, and an additional member who handled peer education.

Data collection included both individual semi-structured interviews (n=14) and a single focus group discussion (FGD) with 17 participants. Interview guides included knowledge of PrEP, attitudes towards HIV prevention, experiences in healthcare settings, factors inhibiting and facilitating PrEP use, and suggestions for improvement. Each interview activity lasted for 45 to 90 minutes. The interviews were conducted in Bahasa Indonesia in an exclusive setting, were voice-recorded after obtaining written informed consent, and were transcribed within 48 hours. The mixed-stakeholder FDG lasted 120 minutes and explored differences in perspectives and empathy among FSWs, providers, and policymakers.

The analysis involved following the successive phases of IPA: idiographic immersion on each transcript, initial experiential coding using descriptive and conceptual comments during iterative stages of Reading, development of Personal Experiential Themes for each participant, analysis for patterns of similarity and differences using cross-case analysis, synthesis of findings for patterns in Group Experiential Themes, and interpretive synthesis for developing an understandable meaning for each person that construed the process of implementation of PrEP. The data were organized and coded with NVivo 12 Pro, but the coding was done manually using reflexive IPA. Frequency information was incorporated to indicate the presence of the theme. Trustworthiness was established through method triangulation, member checking, peer debriefing, and writing reflexive memos about the analytic process and the procedures used to minimize investigator bias. Ethical approval was obtained from the Health Research Ethics Committee, Faculty of Public Health, Universitas Sriwijaya (Approval Number 197/UN9.FKM/TU.KKE/2024). All study participants obtained written, voluntary, and anonymous Informed Consent. In addition to standard ethical protection, study participants who were FSWs received extra care by being recruited by trusted members of their own community, conducting interviews in safe environments, maintaining all records under assumed names, using encrypted storage, and facilitating referrals to care services.

RESULTS

Seventeen participants were involved in this study across three stakeholder groups. Female sex workers (FSW) (n=6) were aged 25–35 years, and all were aware of PrEP availability by October 2024; however, only one participant had initiated PrEP use. Healthcare workers (n=4) consisted of one HIV Program Officer from the Pangkalpinang City Health Office, one HIV Program Officer from a PHC, one physician, and one counselor from a non-governmental organization providing outreach services to female sex workers. All healthcare workers had received training related to PrEP service delivery. Cross-sectoral stakeholders (n=7) represented policy actors (n=4), community-based organizations (n=2), and a peer educator (n=1). Interpretative phenomenological analysis identified seven super-ordinate themes with corresponding Group Experiential Themes (GETs), as presented in Table 1.

Table 1. Interpretative Phenomenological Analysis (IPA): Four-Tier structure of PrEP implementation experiences

Meaning Units	Initial Experiential Statements (IES)	Personal Experiential Themes (PETs)	Group Experiential Themes (GETs)
1. Psychological barriers to PrEP uptake			
"I'm afraid to know... if I know [my status], I'm afraid I won't be able to work anymore. It's better not to know." (Ariyani, 28)	Fear of HIV testing is linked directly to economic survival; knowing status is perceived as a threat to livelihood; willful ignorance is a coping mechanism.	Willful ignorance as an economic protection strategy	**GET 1.1: Fear as a multifaceted and paralyzing barrier**
"I'm afraid of the test results... what if it's positive? Then what? I can't work, I can't support my child." (Monika, 31)	Testing represents an existential threat; a positive result means loss of everything: work, family relationships, and social standing.	Testing as a threshold to catastrophic loss	
"The health workers talked about PrEP, about testing. But hearing about it made me more scared, not less." (Monika, 31)	HIV prevention information paradoxically increases anxiety rather than reducing it; awareness of risk without a sense of control creates overwhelming fear.	Information as an anxiety amplifier	
"I heard from friends that the medicine makes you dizzy, nauseous... I can't afford to be sick and unable to work." (Sara, 29)	Side effects perceived as an immediate economic threat; present tangible risk outweighs future abstract benefit.	Side effect fear as economic calculation	
"They look at us differently when we go to the PHC. We can feel it in the way they look at us." (FSW FGD)	Anticipated stigma based on embodied experience of subtle discrimination; non-verbal communication conveys judgment.	Embodied anticipation of stigma	**GET 1.2: Stigma as embodied and anticipatory experience**
"When I go to the PHC, I feel like everyone knows what I do. It's in their eyes, their tone." (Monika, 27)	Stigma is perceived through micro-interactions, subtle cues that convey moral judgment.	Stigma as a micro-interaction experience	
"I avoid going unless I'm really sick. They'll ask, 'Are you married?' And I have to lie or face judgment." (Rina, 27)	Routine intake questions become stigmatizing interrogations requiring exhausting emotional labor.	Healthcare as a stigmatizing interrogation	
"Last year the nurse asked me in front of other patients, 'Are you a sex worker?' I never went back." (Ariyani, 28)	Breaches of confidentiality in public settings created lasting trauma, preventing future healthcare engagement.	Confidentiality breach as a lasting trauma	**GET 1.3: Trust deficits toward the healthcare system**
"How do I know this medicine is safe? Maybe it's an experiment on people like us. We're poor, we're sex workers, who cares if something goes wrong?" (Monika, 31)	Historical medical exploitation creates reasonable skepticism about novel biomedical interventions.	Medical experimentation fear	

Meaning Units	Initial Experiential Statements (IES)	Personal Experiential Themes (PETs)	Group Experiential Themes (GETs)
"They say they want to help us, but I think they just want to meet their targets. We're just statistics." (Lina, 26)	Health programs are perceived as serving bureaucratic rather than genuine care purposes.	Healthcare as bureaucratic performance	
2. Economic survival vs health protection trade-off			
"We are poor people. Health is a luxury we can't afford. Rich people can think about tomorrow. We have to think about today." (FSW FGD)	Poverty constrains temporal orientation; immediate survival needs preclude future-oriented prevention.	Poverty as a temporal constraint	**GET 2.1: Economic vulnerability as identity-defining constraint**
"I didn't choose this work because I wanted to. I have a child to feed. This is the only way I can make enough money." (Monika, 31)	Sex work represents constrained choice within limited options, not free agency	Sex work as constrained choice	
"If I have 50,000 rupiah, I choose: buy food for my child, or go to the clinic? My child's hunger today is more real than HIV risk tomorrow." (Ariyani, 28)	Economic scarcity creates impossible trade-offs between competing survival needs.	Survival needs hierarchy	
"Even if medicine is free, I pay for transportation, take time from work, maybe pay for childcare. It's not really free for people like us." (Sara, 29)	Hidden costs of "free" healthcare create substantial barriers.	Poverty tax on healthcare	
"Some clients offer more money for sex without condoms. When you're desperate, when you haven't eaten, you say yes." (Rina, 27)	Economic coercion overrides risk awareness; "choice" is not truly voluntary.	Economic coercion into risk	**GET 2.2: Economic power imbalances with clients**
"I know I shouldn't agree to sex without condoms. But when the client offers double money, and I need rent tomorrow, what choice do I have? After, I feel terrible." (Lina, 26)	Profound psychological toll of economic coercion, moral distress from powerless decisions.	Moral injury from economic coercion	
3. Embodied experiences of health and risk			
"When I take vitamins, I feel stronger. When I use condoms, I see protection. But with PrEP, I take a pill and feel nothing. How do I know it's working?" (Rina, 27)	Embodied, perceptible benefits resonate more powerfully than abstract statistical risk reduction.	Preference for tangible benefits	**GET 3.1: Tangible health benefits vs. abstract prevention**
"The one time I tried PrEP, I felt nauseous for days. That was real suffering. The HIV prevention? That's theoretical, maybe future." (Sara, 29)	Asymmetry between certain present costs and uncertain future benefits shapes decisions.	Present harm vs. future benefit asymmetry	

Meaning Units	Initial Experiential Statements (IES)	Personal Experiential Themes (PETs)	Group Experiential Themes (GETs)
"With condoms, we can see the protection. It's physical, it's there. PrEP is invisible, just a pill that might or might not work inside." (FSW FGD)	Epistemological preference for visible, tangible interventions over invisible biomedical processes.	Trust in visible protection	**GET 3.2: Condom preference as visible protection**
"Condoms also protect against other infections, pregnancy. PrEP only prevents HIV. For us, other STIs are more common." (Ariyani, 28)	PrEP's narrow prevention focus is less appealing than condoms' broader protection.	Preference for comprehensive protection	
"After starting PrEP, I noticed my vaginal discharge reduced, and I had more energy. These tangible benefits motivated me to continue." (Dewi, 25 - PrEP user)	Unexpected embodied health benefits are more motivating than abstract HIV prevention.	Embodied wellness as motivator	**GET 3.3: Positive embodied PrEP experience**
4. Structural barriers in the healthcare system			
"We're told to provide PrEP to sex workers. But sex work is illegal. How do we reach people hiding from authorities?" (Provincial Health Official)	Impossible mandate: provide health services to the population simultaneously targeted for law enforcement.	Policy contradiction	**GET 4.1: Policy incoherence between criminalization and health provision**
"Police conduct raids on venues. Sometimes they arrest women we just enrolled in PrEP. This destroys trust women think we collaborate with police." (District Health Staff)	Law enforcement activities directly undermine health programming.	Healthcare as surveillance fear	
"You can't simultaneously criminalize people and expect them to voluntarily access services. Criminalization makes health programming impossible." (CBO Representative)	Policy incoherence is actively harmful, creating barriers that prevent access.	Criminalization as a structural barrier	
"PrEP protocol requires HIV testing, kidney tests, then monthly follow-ups. For women who struggle to come once, this is impossible." (Physician)	Clinical protocols fail to accommodate marginalized populations' constraints.	Protocol complexity as a barrier	**GET 4.2: Healthcare access barriers and procedural complexity**
"We're supposed to provide non-judgmental care, but we're not trained in sex worker health issues. We don't understand their lives." (Nurse)	Lack of specialized training creates empathy gaps.	Training inadequacy	
"Clinic hours are 8 AM to 2 PM weekdays. Sex workers work at night, sleep during the day. By the time they wake up, the clinic is closed." (Counselor)	Institutional structures create barriers invisible to providers but insurmountable for patients.	Structural exclusion through scheduling	

Meaning Units	Initial Experiential Statements (IES)	Personal Experiential Themes (PETs)	Group Experiential Themes (GETs)
"BPJS covers PrEP medication but not HIV testing or kidney function tests. Women have to pay out-of-pocket for required tests before getting 'free' medication." (Physician)	Coverage gaps create financial barriers at the program entry point.	Insurance coverage gaps	**GET 4.3: Financial and coverage barriers**
5. Role of peer educators as bridges			
"Sari [peer educator] explained everything, not like a health worker but like a friend. She told me her own PrEP experience. She went with me to the clinic. Without her, I never would have gone." (Dewi, 25 - PrEP user)	Peer educators provide: accessible information translation, experiential modeling, practical navigation support, emotional support, and a trusted intermediary role.	Peer educator as essential bridge	**GET 5.1: Peer educators as a critical success factor**
"We can provide medical information, but we can't provide trust. Peer educators have lived experience. They're not supplementary, they're essential." (Physician)	Healthcare workers recognize peer educators' irreplaceable role in building trust.	Peer educators provide trust	
"I was a sex worker for 8 years. I know the fear, the stigma, the economic pressure. When I talk to women, they know I understand. I'm not judging I've been there." (Sari, Peer Educator)	Shared identity and lived experience create credibility, non-judgmental solidarity, and embodied proof that healthcare engagement is possible.	Lived experience as credibility	**GET 5.2: Characteristics of effective peer educators**
6. Provider patient divergence			
"We treat all patients the same, regardless of background. We don't judge sex workers; they're patients like anyone else." (Physician)	Healthcare workers genuinely believe they provide non-judgmental care.	Provider self-perception: non-discriminatory	**GET 6.1: Empathy gap between healthcare workers and FSW**
"I always maintain a professional, respectful attitude. I would never discriminate based on someone's occupation." (Nurse)	Providers evaluate behavior based on intentions (non-judgmental).	Professional identity as non-judgmental	
"They say they don't judge, but I can feel it. It's not what they say, it's their tone, their body language. They don't realize they're doing it, but we feel it." (Monika, 31)	Discrimination operates at the micro-interaction level, implicit biases in non-verbal communication providers don't consciously register, but patients acutely perceive.	Implicit bias as embodied discrimination	
"The first time I asked about PrEP, the health worker started listing costs. I got overwhelmed and left. Later, I learned many costs were covered, but by then I was too scared to return." (Lina, 26)	Cost miscommunication created a perception of deception, fundamentally undermining trust.	Cost confusion as a trust breach	**GET 6.2: Cost miscommunication creating trauma**

Meaning Units	Initial Experiential Statements (IES)	Personal Experiential Themes (PETs)	Group Experiential Themes (GETs)
"They told me medication was free, but then there were all these other costs. I felt tricked, as they lied to me. I lost trust." (Ariyani, 28)	Healthcare workers' failure to clearly communicate covered vs. out-of-pocket costs created lasting trauma.	Perceived deception	
7. The paradox of readiness without uptake			
"On paper, we're ready. We have everything in place. But the numbers don't lie, uptake is almost zero. We prepared the supply side but didn't understand the demand side." (Provincial Health Official)	Infrastructure readiness (medication, trained providers, protocols) is insufficient for uptake; there is a fundamental disconnect between technical preparedness and lived realities.	Supply-side bias in implementation	**GET 7.1: Supply-demand disconnect**
"We have the medication, we have trained staff, we have protocols. But women aren't coming. We didn't prepare for their actual barriers: fear, stigma, economic constraints, trust issues." (District Health Staff)	Technical readiness is privileged over understanding the target population's experiences and constraints.	Technical vs. experiential readiness gap	

This analysis showed both themes that appeared across all the mentioned stakeholder groups (convergent) and themes that diverged between the groups (divergent). Convergent themes included the pivotal position of peer educators, conflicts between the criminalization of sex work and health care, the simplicity of accessibility requirements, as well as a general absence of trust, requiring systematic efforts for building such a valuable asset as trust between the stakeholders, including sex workers, health care providers, and representatives of other sectors.

The themes of divergence were based on varying experiences and points of view. While female sex workers experienced stigma and subtle discrimination in healthcare facilities, the services were viewed by healthcare providers as non-discriminatory, reflecting an empathy gap. While female sex workers raised the issue of cost and trade-offs for survival, it remained hidden from healthcare providers and policymakers. For female sex workers, the need was for visible means of protection, such as condoms, but healthcare providers were concerned about biomedical efficacy and statistical protection. Healthcare providers brought forward issues of outreach, but for female sex workers, it was fear of trust, stigma, and fear.

One of the overarching themes identified in this study relates to the paradox of readiness not being matched by program uptake. Despite being available through March 2024 until at least October 2024, only one of the female sex workers in this study initiated treatment using PrEP. This could only happen after being closely supported by a peer counselor in terms of information exchange, accompaniment to a health provider, support of provider communication, and emotional support. This information leads us to believe that taking treatment like PrEP also demands multifaceted efforts, emotional, social, psychological, and practical that go beyond those made in a service program. Initial experiences of a program also had a significant impact on whether an individual would continue to stay in it, especially if interactions were negative, or seek it, primarily through positive peer interactions.

DISCUSSION

This interpretive phenomenological study uncovers the systemic reasons for the failure of PrEP implementation among FSWs in Pangkalpinang City. By analyzing the lens of supply-side preparedness against the reality of empathy gaps and structural barriers, this research builds on

recent worldwide findings documenting the difficulties of implementing medical technologies for marginalized groups.

The paradox of readiness without uptake: a systemic disconnect

Our key finding that infrastructure readiness does not predict uptake aligns with a general trend in low and middle-income countries where technical readiness is often unlinked from program effectiveness (Evens et al., 2024; Mpirirwe et al., 2024). While providers are trained and medication is available, this preparedness represents an illusion of success that fails to account for the chronic trauma and building distrust inherent in the FSW experience. This disconnect mirrors Ugandan research where low PrEP uptake persisted despite provider training due to unmatched structural issues of stigma and financial restrictions (Akatukwasa et al., 2025). Similarly, Zambian studies confirm that supply-side availability shows nil correlation to uptake when demand-side issues such as peer networks and financial liberation are neglected (Evens et al., 2024; Stoebenau et al., 2024). Our study interprets this mismatch as a function of adverse early exposure and process complexities that form unconquerable barriers for financially precarious populations.

The fragmented bridge: failures in cross-sectoral coordination

A fundamental contribution of this study is the identification of a significant gap in cross-sectoral coordination, which explains why infrastructural readiness fails to translate into usage. The title's focus on coordination is validated by the observation that health initiatives cannot succeed in isolation when other sectors operate with conflicting mandates. While the Health Office focuses on medical provision, the lack of substantive engagement with the Social Office and Law Enforcement creates a fragmented system. This lack of convergence means that the Ministry of Health's commitment to universal wellbeing is undermined by punitive local environments. True coordination requires a structural alignment where social safety nets and non-interference policies from law enforcement are established as prerequisites for health outreach. Without this synergy, the PrEP program remains a medical technology without a social pathway for its intended users.

Psychological barriers: stigma and the empathy gap

The fear that paralyzes PrEP uptake manifests through testing anxiety and expected stigma, which strongly aligns with recent global data. In Morocco, FSWs identify medical facilities as hostile environments requiring emotional armor (Moussa et al., 2024), while in Malaysia, FSWs avoid education due to a visceral fear of judgment based on past treatment (Foley et al., 2024). Our study extends this by documenting an empathy gap where healthcare providers' perceptions of impartial practice contrast sharply with FSWs' experiences of pervasive micro-aggressions (Mpirirwe et al., 2024). These micro-aggressions, such as dismissive tones and nonverbal cues, are downstream manifestations of implicit bias (Mwanja et al., 2024). We interpret these empathy gaps as a micro-level of discrimination that operates beneath conscious perception, suggesting that implementation must target structural modifications and performance metrics based on key population satisfaction rather than just explicit attitude training.

Economic coercion and structural violence

Our findings reveal that economic precarity fundamentally constrains health agency, creating impossible trade-offs between survival and prevention. This extends scholarship on structural violence where economic desperation overrides HIV risk awareness (Emmanuel et al., 2020). Similar to South African studies, our participants articulated a hierarchy of needs where immediate survival precludes future-oriented prevention (Makhakhe et al., 2022). Furthermore, the hidden costs of free healthcare, such as transportation and lost work time, function as a regressive tax on the poor (Stoebenau et al., 2024). Indian research also documents how time

poverty makes monthly clinic visits impossible for those at the economic margins (Sahay et al., 2021). We interpret these costs as barriers that remain invisible to providers but are decisive for FSWs, highlighting the need for comprehensive support, including transportation stipends and flexible scheduling.

Policy incoherence and the legal landscape

The criminalization of sex work significantly undermines PrEP implementation by creating a paradox between public health goals and punitive legal instruments. Moroccan and Nigerian studies confirm that police activity promotes a fear of surveillance, leading FSWs to suspect government health services of being used for penal consequences (Moussa et al., 2024; Emmanuel et al., 2020). In the Indonesian context, this manifests as a friction between the Ministry of Health's targets and national laws such as the Pornography Law (UU No. 44/2008) and local public order regulations. This tension institutionalizes difference and oppression, as FSWs strategically avoid facilities perceived as extensions of a monitoring state. Therefore, success requires a pragmatic focus on harm reduction and reducing institutional stigma within the existing framework (Akatukwasa et al., 2025).

Peer educators: integral infrastructure of trust

Our results suggest that peer education is an integral infrastructure rather than a supplementary resource. Studies in Uganda and Zimbabwe show that peer-delivered strategies significantly increase PrEP distribution and continuation by providing the trust that formal providers lack (Akatukwasa et al., 2025; Mayanja et al., 2025; Busza et al., 2021). Peer educators enable uptake by translating medical information and providing embodied proof of feasibility (Mantsios et al., 2022). They operate through solidarity rather than expertise, using a non-judgmental perspective to navigate obstacles that remain unseen by practitioners. We conclude that without this peer-led trust infrastructure, PrEP programs are likely to fail regardless of their medical quality.

Embodied experience and the epistemology of prevention

Finally, the preference for condoms over PrEP reveals a neglected epistemological aspect of prevention. FSWs often desire tangible protection they can see and feel, rather than invisible biomedical mechanisms (Makhakhe et al., 2022). Research in Tanzania confirms that perceptions of efficacy are tied to visible evidence of protection (Tarimo et al., 2025). Our study illustrates that the sole successful PrEP user was motivated by tangible health benefits like increased energy rather than abstract statistical risk reduction. This suggests that for populations with low future-planning capability, immediate and concrete gains have more persuasive power than abstract epidemiological information (Nakiganda et al., 2025).

Limitations

This study has several limitations that should be acknowledged. First, the relatively small sample size of 17 participants limits the statistical generalizability of the findings. However, Interpretative Phenomenological Analysis (IPA) prioritizes the depth of individual experience over broad representation, and this sample size is consistent with established IPA principles (Tindall, 2009). Second, because the study focused on a single urban area within a small island province, the findings may not represent other regions in Indonesia or different geographical contexts. Nevertheless, the detailed description of the research setting allows for a degree of transferability, enabling readers to make personal judgments regarding the application of these findings to similar geographical or political environments.

Furthermore, as the study was conducted only seven months after the program's launch, the results reflect the initial start-up phase rather than long-term development. Consequently, the findings primarily capture early adoption patterns and may not account for the variables that influence sustained program success over time. Future research incorporating longitudinal

Monitoring and Evaluation (M&E) is recommended to examine how participant engagement, barriers, and facilitators evolve as the program matures. Finally, because FSW participation in the PrEP program was still in its early stages during data collection, the long-term impact of the intervention on this population remains an area for further investigation.

Implications for implementation

Our findings generate several actionable recommendations for PrEP implementation improvement. First, peer-based delivery models should be the primary rather than supplementary program strategy, with peer educators integrated from program inception and adequately compensated for their essential role. Second, programs must address economic barriers through comprehensive support, including transportation stipends, flexible scheduling, income replacement for clinic visits, and potentially cash transfers enabling FSW to refuse economic coercion into risky behavior. Third, policy coherence requires high-level political commitment, including explicit protections against law enforcement targeting individuals accessing health services and movement toward sex work decriminalization as an essential HIV prevention strategy. Fourth, provider training must address implicit bias through structural interventions beyond cultural competence workshops, including standardized protocols, patient feedback mechanisms with accountability, and performance metrics around key population satisfaction. Fifth, PrEP messaging should emphasize tangible immediate benefits alongside statistical efficacy, acknowledging that embodied wellness may motivate adherence more powerfully than abstract prevention. Sixth, early program quality is critical, as single negative experiences create lasting trauma requiring intensive quality assurance during initial implementation phases when first impressions disproportionately shape long-term engagement.

CONCLUSION

This study highlights a critical disconnect between clinical readiness and community uptake of PrEP among female sex workers in Pangkalpinang. Although infrastructural preparedness regarding drug supply and provider training is already established, it remains insufficient to ensure program success. The findings reveal that for PrEP to be transformative, implementation must shift from a supply-side focus to a demand-driven approach that prioritizes two essential pillars. First, peer-led delivery models are necessary to build the trust that professional medical staff often cannot establish. Second, the program requires structural support to mitigate the hidden economic and social costs of accessing healthcare services.

Furthermore, achieving national HIV targets requires a pragmatic alignment between public health mandates and local realities. In the Indonesian context, this necessitates a focus on harm reduction and non-discriminatory service delivery within the existing legal framework. This approach moves beyond the global discourse of full decriminalization to address institutional stigma and practical barriers. Future research in implementation science should explore how marginalized groups navigate legal risks and economic marginality. Ultimately, the potential of PrEP lies not in its medical availability but in the ability of the health system to bridge the empathy and structural gaps that currently exclude those at highest risk.

AUTHOR'S DECLARATION

YY: Original draft preparation, conceptualization, methodology, supervision and analysis; **RJS:** Supervision, critical review and editing; **NN:** Critical review methodology, and supervision; **RR:** Supervision and analysis; **NU:** Critical review and editing; **YY:** critical review, methodology, and editing; **BD:** data analysis and conceptualization; **MM:** critical review and editing. All authors have read and approved the final manuscript.

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Availability of data and materials
All data generated and analyzed during this study are available from the authors upon reasonable request.

Competing interests
The authors declare no competing interests.

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